Northeast Maryland Waste Disposal Authority

WasteWatch

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In this issue...

Tonya Simmons, Recycling Coordinator for the City of Baltimore, describes the truck routing study and the City's innovative 1+1 refuse and recycling collection program for the attendees of the U.S. Conference of Mayor's Municipal Waste Management Fall Summit. Frank Bernheisel, Vice President with GBB, was the consultant providing the routing study to Baltimore City.

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The Mandatory Greenhouse Gas Reporting Rule

On January 1, 2010, the U.S. Environmental Protection Agency (EPA) will require large emitters of heat-trapping emissions to collect greenhouse gas (GHG) emission data under a new, mandatory reporting system. These large emitters include fossil fuel suppliers and industrial gas suppliers, direct greenhouse gas emitters, and manufacturers of heavy-duty and off-road vehicles and engines. It is expected that this mandatory reporting requirement will cover approximately 85 percent of the nation's GHG emissions and apply to roughly 10,000 facilities. Under the new rule (74 FR 56260), suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more of GHG emissions (based on 25,000 metric tons of CO_2 equivalent per year) are required to submit annual reports to EPA. Gas emissions covered by this new reporting requirement are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), and other fluorinated gases, including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE) (as defined in 40 CFR Part 98, Subpart A).

40 CFR 98, subpart HH introduced by this new rule, requires mandatory reporting requirements for municipal solid waste landfills that generate methane in the amounts equivalent of 25,000 metric tons of carbon dioxide equivalents (CO_2e) or more per year. According to EPA, the carbon dioxide equivalent (CO_2e) for methane emissions from landfills is based on the amount of methane generated (adjusted for soil oxidation, but not considering whether any gas is collected and destroyed), and not the actual amount of methane emitted. Landfills that collect and destroy methane also may be required to update landfill gas flow meters to account for temperature and moisture readings as part of these requirements. Landfills that do not collect and control landfill gas emissions must account for soil oxidation using a default oxidation factor.

Municipal solid waste landfill owners and operators must report the annual modeled methane generation and methane emissions from landfills. Landfills with gas collection and control systems must report the annual methane destruction amounts. Landfills having general stationary combustion sources also must report the carbon dioxide and nitrous oxide emission amounts generated from the stationary combustion source.

The intent of this final rule at this time is not to control or limit greenhouse gas emissions, but to better understand from where GHGs are coming. It is expected that data generated from the reports will assist regulators on the best possible policies and programs to reduce emissions. The data also will allow businesses to track their own emissions, compare them to similar facilities, and provide assistance in identifying cost-effective ways to reduce emissions in the future. The first annual reports will cover calendar year 2010, and will be required for submittal to EPA in 2011. For more information on the mandatory reporting of Greenhouse Gases Rule, visit http://www.epa.gov/climatechange/emissions/ghgrulemaking.html.

Guest Column...Who Passed Gas

This article has been reprinted with permission by Stephen T. Lesinski, Engineer III, Montgomery County DEP/DSWS from the October 2009 newsletter for the Mid Atlantic Chapter SWANA .

No, no, no ... hear me out ... this is the "good" kind of gas! With the proper collection and management of landfill gas, a virtual nuisance can be converted into a valuable energy commodity.

In December 2007, the Montgomery County Department of Environmental Protection (DEP) teamed with the Northeast Maryland Waste Disposal Authority (NMWDA) and its engineering contractor, SCS Engineers (SCS) to design/build/operate two landfill gas-to-energy facilities at the Oaks and Gude Landfills. Design and permitting were completed within one year, and after seven months of construction and start-up testing, DEP has two beneficial use facilities that collectively generate 3.2 megawatts (MW) of electricity.

The Basics – during operation and closure, a landfill will generate various gases, including methane via waste decomposition. Under the Resource Conservation and Recovery Act (RCRA), solid waste management facilities are required to control the migration of landfill gas, primarily due to the explosive potential of methane. As a point of reference, natural gas typically consists of 90 percent methane, whereas landfill gas ranges from 40-50 percent methane.

The gases generated by waste decomposition are collected through a network of vertical and horizontal pipes, which are connected to a blower (e.g. fan) that exerts a negative pressure on the landfill. The blower draws the gas to a Flare Station for flame burning (no energy value) or to a gas-to-energy facility, where the gas is burned in an internal combustion engine that will turn generators and subsequently produce electricity.

The Facilities – The Oaks Landfill is approximately 170 acres and is located at 6001 Olney-Laytonsville Road in Laytonsville, Md. The gas-to-energy facility utilizes approximately 900 standard cubic feet per minute (scfm) of gas in two engines: Caterpillar 3520 and Jenbacher GS 316. The existing candlestick flare is utilized on an as-needed basis for gas control to supplement the gas-to-energy facility if gas migration is detected. The two engines, in conjunction with support equipment (pretreatment skid, transformers, switchgear, etc.), generate and transmit approximately 2.4 MW of electricity, enough to power just over 1,500 homes year round.

The Gude Landfill, located at 600 E. Gude Drive in Rockville, Md., is approximately 100 acres. From 1985 to 2006, a gas-to-energy facility operated on the Gude site that initially generated 2.7 MW of electricity. The new gas-to-energy facility utilizes approximately 300 scfm of gas in a single Jenbacher GS 316, and the remainder of gas is burned in the existing enclosed stack flares. The single engine with support equipment generate and transmit approximately 0.8 MW of electricity, enough to power close to 500 homes year round.

The Green Aspects – The gas-to-energy facilities will collectively produce enough electricity to power approximately 2,000 homes year round. Estimated environmental offsets from the Gude Landfill gas-to-energy facility include the reduction of approximately 4,557 tons of carbon emissions with respect to diverting power generation from coal-burning power plants.

This is equivalent to planting approximately 9,500 acres of trees or taking more than 6,670 cars off the roads. The environmental offsets from the Oaks Landfill gas-to-energy facility will be three-fold as it produces three times the amount of electricity.

The Economics – Costs for both gas-to-energy facilities combined will total approximately $7.3 million. Expected revenues from the sale of electricity and renewable energy credits should enable DEP to recoup its capital investment within 7 to 10 years, depending upon rates in future electricity sales agreements and market conditions.

Garbageman Appreciation Day

Private and municipal solid waste collection workers from Baltimore City and County took a break on October 27, 2009, as Mayor Sheila Dixon and other city officials dished out a barbecue lunch and appreciation for another year of great service, at Garbageman Appreciation Day. Wheelabrator Baltimore, (BRESCO) has hosted the annual event for nearly two decades.

At the event, Mayor Dixon thanked Wheelabrator for their support of the Cleaner Greener initiative. After Mayor Dixon spoke, Mark Schwartz addressed the group.

Mayor Dixon and Heidi Choate, Community Relations Specialist, Wheelabrator Technologies Inc., speak to students from Calverton Elementary/Middle School who participated in the year long Wheelabrator Environmental Symposium program.

David Scott, Director of Baltimore City DPW, looks on as Mark Schwartz, Vice President of Business Development for Wheelabrator Technologies addresses the group.

From left: Baltimore City Councilmen Nick D'Adamo and Bernard "Jack" Young pose for a picture with 30-year City employee George Walker.

Baltimore City Mayor Sheila Dixon took time to stop by Wheelabrator Baltimore during its annual Garbageman Appreciation Day on October 27th to say "thank you" to the many men and women who help keep the streets of Baltimore clean. Here, Mayor Dixon thanks a Baltimore City hauler for a job well done.

Sarbanes Celebrates Adult Literacy Week

Congressman John Sarbanes held a press conference in October to mark the start of National Adult Education and Family Literacy Week at the South Baltimore Learning Center (SBLC). The Congressman was joined by several people receiving literacy services. "Organizations such as SBLC are vital to helping reverse the alarming rate of illiteracy in this nation," said Congressman Sarbanes. "Adult education services are necessary to help people take the next step to obtain their high school diploma and advance their career."

In Maryland, working-age residents with college degrees are 30 percent more likely to be employed than those with less than a high school diploma. More than 140,000 adults in Baltimore City do not have a high school diploma, and yet 44 percent of the jobs in Maryland require at least a high school diploma. To place a spotlight on this issue, the U.S. House of Representatives designated October 18 – 23, 2009, as National Adult Education and Family Literacy Week. The bill H.R. 707 states "literacy of its citizens is essential for the economic well-being of the United States, our society and the individuals who can benefit from full participation the rein." Organizations like SBLC support adult education initiatives through individual tutoring, classroom programs, computer training and career and higher education counseling. Wheelabrator Technologies, Inc.'s Baltimore RESCO facility is a founding corporate sponsor of the SBLC. For information, visit http://www.southbaltimorelearns.org/index.html.

Rep. John Sarbanes (D-MD) speaks with Lynn Selmser, National Council of State Directors of Adult Education policy analyst, and Patricia Tyler, Office of Adult Education and Literacy Services deputy assistant secretary.

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